

Abstract

This invention is to provide a process for producing a glycoprotein comprising a mammalian type sugar chain, characterized in that the process comprises introducing an α -1,2-mannosidase gene into a methylotrophic yeast having a mutation of a sugar chain biosynthesizing enzyme gene, so that the α -1,2-mannosidase gene is expressed under the control of a potent promoter in the yeast; culturing in a medium the methylotrophic yeast cells with a heterologous gene transferred thereinto; and obtaining the glycoprotein comprising a mammalian type sugar chain from the culture. Using the newly created methylotrophic yeast having a sugar chain mutation, a neutral sugar chain identical with a high mannose type sugar chain produced by mammalian cells such as human cells, or a glycoprotein comprising such a neutral sugar chain, can be produced in a large amount at a high purity. By introducing a mammalian type sugar chain biosynthesizing gene into the above-described mutant, a mammalian type sugar chain, such as a hybrid or complex, or a protein comprising a mammalian type sugar chain can be efficiently produced.